POVERTY AS A FACTOR IN THE PATHOGENESIS OF MOTOR DISABILITY: A TWO-YEAR STUDY ON THE INPATIENT REHABILITATION SERVICE*

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THE Inpatient Rehabilitation Unit at Harlem Hospital Center was started when the new building at Harlem Hospital was opened in September 1969. Prior to this there were no inpatient beds, and patients requiring rehabilitation were treated by other services or referred to inpatient rehabilitation departments in other city hospitals. This report will discuss the 30-bed inpatient rehabilitation service at Harlem Hospital from January 1970 through December 1971.

During this two-year period more than 450 patients were evaluated by myself and a rehabilitation nurse for admission to the service. Most referrals were from within the hospital, some patients were referred directly from the community, and others from surrounding hospitals where intensive rehabilitation services were not available.

When the ward was opened a problem immediately encountered was the lack of appropriate referrals. Referrals varied from patients awaiting nursing-home placement to those with acute medical problems. Sometimes we were regarded as a disposition service; at other times we had been oversold and patients were referred to us for whom we had little to offer.

In reviewing the discharge of patients over the two-year period, 199 patients were discharged and three patients died while on the ward. Of the patients discharged, all but seven were discharged into the com-

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TABLE I. LENGTH OF STAY OF PATIENTS

Diagnostic category	*1970*		*1971*	
	% of discharges (N = 97)	*Average length of stay (days)*	*% of discharges (N = 105)*	*Average length of stay (days)*
1) Orthopedic	16.5%	98.7	4.8%	77.4
2) Spinal cord	4.1%	45.0	9.5%	130.0
3) C.V.A.	35.1%	67.5	40.0%	94.8
4) Amputee	21.6%	113.3	26.6%	109.7
5) Arthritic	3.1%	102.0	4.8%	44.0
6) Head injuries	5.1%	55.8	1.9%	49.5
7) Peripheral neuropathy	9.3%	94.6	4.8%	48.6
8) Other neurological	3.1%	68.0	3.8%	59.7
9) Burns			1.9%	42.5
10) Other	2.1%	51.5	1.9%	22.5
Total	100.0%	84.3	100.0%	92.1

munity. Of the latter group six went to nursing homes and one to a long-term-care facility.

During the first year, patients who had sustained strokes or amputations made up more than half the population of discharged patients and accounted for more than half of the patient days (Table I). Patients recovering from orthopedic surgery and those with peripheral neuropathy were the next largest group both in total discharges and hospital days. As the ward started to function more smoothly—with improvements in administration, nursing, and social service—we accepted more patients with spinal cord disease and more complex stroke patients. These two groups accounted for the longer stay and increased number of patients in these groups in 1971. Another factor contributing to the lengthened stay of these patients was the absence of a social worker during the latter months of 1971.

The duration of hospitalization within the unit falls within the average length of stay of inpatient rehabilitation units within other city hospitals, but is markedly prolonged as compared with the hospital stay of an inpatient unit within a voluntary hospital.

Drug addiction and alcoholism are two of the most difficult management problems, both in the hospital and following discharge. Drugs and alcohol are easily obtainable within the hospital. It is estimated that more

Fig. 1. Stairs used for training patients at the hospital.

than 15% of adult patients presently discharged from the medical service at Harlem Hospital are heroin addicts. Although estimates of the prevalence of alcoholism among patients admitted to general hospitals have varied, a study done on patients admitted to four medical wards at Harlem Hospital over a three-week period gave a total prevalence of 47 to 60% in males and 34% in females.[1]

Thus, major contributions to the causation of disease or impairment in the catagories of orthopedics, spinal-cord injury, head injury, and neuropathy were alcoholism and addiction. For example, of the 13 patients with peripheral neuropathy, 10 were related to alcohol abuse. Five of the 14 patients with spinal cord involvement were known to have sustained their injuries while drinking; three others who sustained gunshot wounds were known to be drug addicts. In addition to these patients, five had impairments directly related to their addiction and

Fig. 2. Stairs a patient had to manage at home.

four had acute transverse myelitis in the thoracic area when mainlining was resumed after a period of abstinence from heroin. Two patients had episodes of rhabdomyolysis; one occurred in a patient who also had transverse myelitis.

Patients requiring rehabilitation are admitted to the Inpatient Rehabilitation Service whether they are known drug users or not. On admission to the ward, the drug treatment of the addict group has varied. Some are on methadone-maintenance programs, others on smaller doses of methadone, and still others have been detoxified and are on no drug pro-

Fig. 3. A wide corridor with railing and even floor surfaces used for training patients to walk.

gram. Certain procedures have evolved from our experience with the heroin addict. Methadone is given orally in liquid form and urines are randomly analysed for drugs. Patients on nonblocking doses of methadone are continued and detoxified only on discharge. Where possible, patients with drug-related disabilities are encouraged to enroll in the methadone-maintenance programs.

When the rehabilitation ward was opened, many routines in other city hospitals were not accepted by the hospital administration. For example, until this time all patients had their meals served at the bedside.

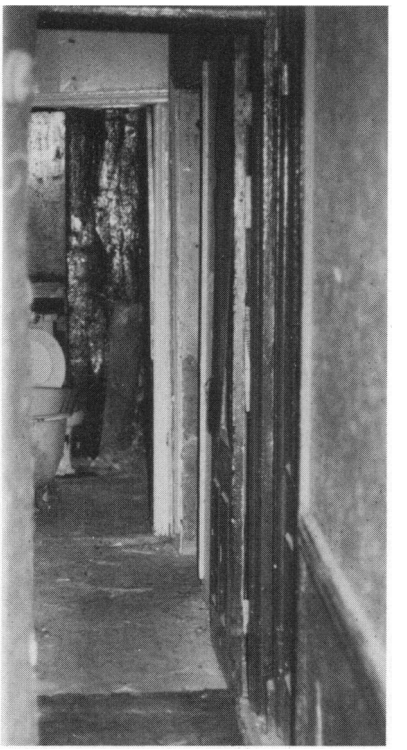

Fig. 4. A narrow, uneven hallway in a patient's home.

It took much persuasion before the dietary service agreed to serve the patients in the dining room, and persistent efforts were made before this became an accepted procedure. It was unheard of for patients to wear street clothes, and the question of the nursing staff wearing street clothes caused a stir among both the patients and the nursing administration. It was also necessary to establish the principles of evaluative home visits, travel tests, and weekend passes.

On the other hand, perhaps because the ward was new, certain programs were set up with little difficulty. These included routine hearing evaluations, dental checkups, and podiatric care. Gradually programs were developed to deal with some of the problems that confronted us. A patients' government was set up which focused constructively on problems that had occurred. It soon became apparent, however, that because of the discharge of patients, continuity of the patients' govern-

TABLE II. SOURCE AND FREQUENCY OF DROPOUTS

Source	*N*	*%*
Moved out of area	4	19
Deceased	2	10
Cannot be found	4	19
Refusal	3	14
Vagrant life style	5	24
Institutionalization	3	14
Total	21	100

ment was difficult to maintain. This contrasted to patients' governments in long-term institutions.[2] Other groups of patients were developed around specific impairments or major discharge problems. These will be reviewed in depth by Dr. Herbert L. Thornhill.

Although a full-day-care program has not been organized, an attempt has been made to provide special services for the patients returning for treatments, clinic visits, or meetings with patients. These patients can obtain lunch in the patients' dining room and are encouraged to continue their participation in patients' activities after discharge. One patient, an amputee, was scheduled for weekly showers on the ward, as modification of his bathroom at home was not possible.

Because of the poor conditions in apartments and rooms that many of our patients returned to, it soon became apparent that training within the hospital did not provide realistic training for discharge situations (Figures 1 to 4). Thus, a program of early home visits and home visits on discharge became an integral part of our program. This technique of home visits has been extended under a federal grant to follow up patients' function in the community following discharge. Through this grant 80% of patients have been followed. Twenty-one dropouts have been studied (Table II).

Throughout the rehabilitation program an attempt has been made to utilize available community resources. A representative from the Visiting Nurse Service meets with us monthly at our team meetings to discuss patients ready for discharge, and reports back on patients discharged into the central Harlem area. It is of interest to note that a small group of patients who appeared to function poorly at time of

home visits but who refused institutionalization have subsequently managed to stay at home with the help of neighbors. Three other such patients were later placed in nursing homes. Many patients, fearful of the unfamiliar, have refused to move into better housing in a strange community. On the other hand, one fully ambulatory patient who was discharged into the community was terrified of leaving her apartment. She had been mugged and sustained a hip fracture when leaving the apartment some months earlier.

Many obstacles prevent or delay discharge of patients into the community. Some examples are:

1) *Housing*—architectural barriers, poor and inadequate housing. Some patients have had to remain hospitalized because of their inability to climb five or six flights of stairs.

2) *Family constellation.* As more than 50% of our patients live alone and have no family, maximum independence is essential prior to discharge.

3) *Nursing homes.* There is one 238-bed nursing home within the Harlem community. Thus, nursing-home beds are scarce in central Harlem. In a study done on a group of patients referred to nursing homes, the average waiting period was at least 65 days.

Prolonged hospitalization may be related to the greater number of illnesses or the severity of illness.[3]

The development of the Inpatient Rehabilitation Unit has been a challenging experience. It has taken time, even within our own department, for the inpatient service to be accepted as an integral part of the department. Because of funding, the outpatient department and amputee program were well established before the ward was opened. It is also only more recently that other medical services are becoming more aware of our role.

Over these two years we have accumulated some experience in dealing with our disabled population and also developed some specific programs. However, much remains to be done. At this time there is still no organized, coordinated inpatient addiction service and alcohol-counseling unit within the hospital and, on discharge, community programs are not available for patients with physical impairments. Until such programs are organized we cannot provide the necessary counseling and follow-up services that our patients so badly need. A Follow-up Clinic

has been started, but has had limited success. It needs additional staffing and coordination to be a more comprehensive clinic. There has been no provision for a recreational department at Harlem Hospital. One of our most pressing needs is for a recreational worker on the ward. With the funding of municipal health care being subject to the whims of politicians, it is questionable whether new programs can be started and even whether the present ones can be maintained.

I have tried to give some idea of our program during 1970 and 1971. I have mentioned some of the difficulties we have encountered, some of the programs we have started, some of our failures, and a few of our hopes.

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